



*Training Course:
Plant Reliability: Modelling, Analysis and
Prediction*

*16 - 20 May 2027
Sharm El-Sheikh (Egypt)
Sheraton Sharm Hotel*

Training Course: Plant Reliability: Modelling, Analysis and Prediction

Training Course code: EN6021 From: 16 - 20 May 2027 Venue: Sharm El-Sheikh (Egypt) - Sheraton Sharm Hotel Training Course Fees: 5100 € Euro

Introduction

Plant reliability is a critical factor in ensuring continuous operations, minimizing downtime, and optimizing asset performance in industrial environments. Advanced reliability modeling and predictive techniques enable organizations to anticipate failures, improve maintenance strategies, and enhance operational efficiency.

This program, designed by Global Horizon Training Center, equips participants with advanced methodologies, analytical tools, and practical skills to model, analyze, and predict equipment and system reliability, supporting data-driven maintenance and operational excellence.

Course Objectives

By the end of this program, participants will be able to:

- Understand principles of reliability engineering
- Apply reliability modeling techniques
- Analyze failure data and system performance
- Use statistical methods for reliability prediction
- Implement predictive maintenance strategies
- Conduct failure mode and risk analysis
- Improve asset reliability and lifecycle management
- Support decision-making using reliability data

Target Audience

This program is designed for:

- Maintenance and Reliability Engineers
- Asset and Operations Managers
- Mechanical and Electrical Engineers
- Oil & Gas and Industrial Professionals
- Quality and Performance Analysts
- Technical staff involved in asset management

Outline

Day 1: Fundamentals of Reliability Engineering

- Introduction to reliability concepts
- Failure modes and mechanisms
- Reliability metrics MTBF, MTTR
- System reliability basics
- Safety and risk considerations

Day 2: Reliability Modeling Techniques

- Reliability block diagrams RBD
- Fault tree analysis FTA
- Failure mode and effects analysis FMEA
- System modeling approaches
- Practical applications

Day 3: Data Analysis and Statistical Methods

- Failure data collection and analysis
- Probability distributions Weibull, exponential
- Reliability prediction techniques
- Trend analysis and forecasting
- Software tools basics

Day 4: Predictive Maintenance and Condition Monitoring

- Predictive maintenance strategies
- Condition monitoring techniques vibration, thermography
- Data-driven maintenance
- Performance monitoring
- Integration with maintenance systems

Day 5: Optimization, Risk Management, and Case Studies

- Reliability-centered maintenance RCM
- Risk assessment and mitigation
- Asset lifecycle optimization
- Best practices in reliability engineering
- Case studies and real-world applications

Registration form on the Training Course: Plant Reliability: Modelling, Analysis and Prediction

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